ISO TC184/SC4/WG10 N43 -- issues log for WG10 N31 and N42

Issue number:	1	**Raised by:**	Pascal Huau	**Date:**	23-Nov-95
Document N:	31	**Clause(s):**	Cover Sheet	**Status:**	closed

Issue title: Cover sheet/project leader **Class'n:** editorial

Description

With ISO, the concept of project has a precise meaning: a project leads to the definition of a standard and the project leader is appointed by the concerned secretariat. This document does not correspond to this case (for the moment, at least).

Proposed resolution:

I therefore propose to move the informations regarding the present project "leader" in the note Comments to Reader.

Actual resolution:

Field titles on cover sheet changed to 'Owner' and 'Alternate'.

Commentary

The wrong version of the SC4 cover sheet was used for document N31. The two fields on the cover sheet should be entitled "Owner" and "Alternate" respectively. As and when the work on N31 develops to the point where a need for a new standard is identified, how (and by whom) is a New Work Item Proposal raised? (JPF 12/23/95)

Implemented: N42 **Date resolved:** 18/01/96

Issue number:	2	**Raised by:**	Pascal Huau	**Date:**	23-Nov-95
Document N:	31	**Clause(s):**	Cover sheet	**Status:**	unpersuasive

Issue title: Cover sheet/comments to reader **Class'n:** editorial

Description

ISO TC184/SC4 thanks Shell for funding a part of its work but that has not to be mentioned in a ISO document: on the cover sheet of AP214, it is not mentionned that the AP development has been funded partly by Mercedes or BMW .

Proposed resolution:

The last sentence of the note should therefore be removed.

Actual resolution:

The acknowledgement has been moved from the cover page to a footnote in the Introduction.

Commentary

For Parts documents it has been established that individual organisations cannot be named as the sponsors of technical work. For documents like this, however, it is important to recognise who has supported the work. The issue is therefore rejected - indeed, other SC4 document authors should be *encouraged* to indicate the source(s) of funding for their work. (JPF 12/23/95)

Implemented: N42 **Date resolved:** 18/01/96

ISO TC184/SC4/WG10 N43 -- issues log for WG10 N31 and N42

Issue number:	3	**Raised by:**	Pascal Huau	**Date:**	23-Nov-95
Document N:	31	**Clause(s):**	1	**Status:**	closed

Issue title: Change to current basis of the standard **Class'n:** minor technical

Description

I disagree with the postulate at the end of the chapter (i.e. "without significant change to the current basis of the standard"). This kind of restriction, even if it is sensible, is not wishable at the begining of such a study. It can be also noticed that it has not been defined in the reference terms of WG10.

Proposed resolution:

Remove final paragraph of section 1 (Introduction)

Actual resolution:

The second sentence of the final paragraph is deleted.

Commentary

The first sentence is unaffected by this issue. (JPF 12/23/95)

Implemented: N42 **Date resolved:** 18/01/96

Issue number:	4	**Raised by:**	Pascal Huau	**Date:**	23-Nov-95
Document N:	31	**Clause(s):**	1.1	**Status:**	open

Issue title: Extension of scope **Class'n:** major technical

Description

Even if the actions mentioned may be recalled, the purpose of this document should not be reduced to only them. The goal of such a document is the study of architectural issues for standards dedicated to product data exchange and sharing; the question of core models is only one aspect.

Besides, it seems also to me that the purpose of such a study should be to check whether all the requirements placed on STEP can be simultaneously fullfilled by a single standard - this is not sure at all - and if not, to provide proposals for simultaneouly fullfilable re-quirements.

Proposed resolution:

Add that the study should check whether all the requirements placed on STEP can be si-multaneously fullfilled by a single standard - this is not sure at all - and if not, to provide proposals for simultaneouly fullfilable requirements.

Actual resolution:

Several textual changes have been made to emphasise the SC4/industrial data aspects of the paper, rather than just STEP. Sections affected are:

* Introduction (1st and last paragraphs, desciption of sections 6 and 7)
* First two paragraphs of section 3.2
* First paragraph of section 5
* Final paragraph of section 5
* First two paragraphs of section 6.1
* 6.2
* First paragraph of 6.2.7
* Section 7.1, up to figure 2
* Section 8

Commentary

There is a more general issue with N31, which is that it is too much about STEP and not the "SC4 standards". (MRW 11/27/95).

The issue for WG10 is how requirements for management of "industrial data" are satisfied by the SC4 standards, together with other appropriate standards. (JPF 12/23/95)

Substantial editorial change has been made in response to MRW's note above (JPF 1/11/96)

See my issue #50 regarding the STEP focus of section 4 (JPF 1/19/96)

Implemented: N42 **Date resolved:** 12/01/96

Issue number:	5	**Raised by:**	Pascal Huau	**Date:**	23-Nov-95
Document N:	31	**Clause(s):**		**Status:**	unpersuasive

Issue title: Imprecise scope **Class'n:** minor technical

Description

The current definition of the scope is somehow unprecise. Within SC4, we do not deal with any computerized data but with product data (ISO 10303) and parts library data (ISO 13584). (I do not consider Mandate because its scope is not completely clear).

Proposed resolution:

Add additional sentance(s) to more precisely define the type of data within scope.

Actual resolution:

Commentary

The scope of SC4 is "industrial data". Currently, SC4 has three work items covering "product data", "parts library" and "manufacturing management data". These are already very broad, and do not preclude extensions to their own scopes, or the addition of new work items within "industrial data". (JPF 11/27/95)

Implemented: **Date resolved:**

Issue number:	6	**Raised by:**	Pascal Huau	**Date:**	23-Nov-95
Document N:	31	**Clause(s):**	1.3	**Status:**	unpersuasive

Issue title: Organisational aspects of STEP **Class'n:** minor technical

Description

A quite important aspect is not covered currently in the document: the organizational as-pect. A first point is that works within SC4 are not funded by one organization but by various structures possibly competing and having different objectives. A second one, in fact one of the main constraints on the development of STEP and SC4 standards in general, is the fact that they are elaborated by a wide community (>200 persons) gathering experts with vari-ous backgrounds, various technical interests, various goals and often time_limited and amount_limited fundings.

A third one is the fact that the SC4 standards are designed for a much wider population, which includes the expected implementors and it must be noticed that this latter community is not represented in SC4 projects in proportion to its role in the future use of the SC4 stan-dards.

For standards like STEP, the Past has proven that a reference committee is highly re-quired; unfortunately, the consequence of the first and second points is that the power and respect granted to such a referee is here partitioned in several, sometimes disagreeing, structures.

A consequence of points 2 and 3, is that the SC4 standards have to be built with very strong rules and precise definitions leading to minimal ambiguities. But, in the same time, it is required to ensure extensibility capabilities.

Proposed resolution:

Actual resolution:

Commentary

Organisational issues are not in the scope of N31. WG10 should nonetheless work with the PPC to ensure that the SC4 organisation supports the architecture/methodology of the SC4 standards, and also that the procedures and practices used are appropriate for a voluntary organisation. (JPF 12/27/95)

Implemented: **Date resolved:**

Issue number:	7	**Raised by:**	Pascal Huau	**Date:**	23-Nov-95
Document N:	31	**Clause(s):**	3	**Status:**	open

Issue title: Life-cycle of a product **Class'n:** major technical

Description

STEP is focused on the description of products. But, if the SC4 projects have produced means to make precise snapshots of products, STEP is much poorer regarding the capa-bilities offered to describe the way data evolve, or are allowed to evolve, "throughout the life cycle of a product". Therefore, in that sense, the expression "throughout the life cycle of a product" is not currently covered by STEP.

Proposed resolution:

Actual resolution:

Commentary

Transfer this issue to the revision of Part 1, and possibly also to Part 13. The standards envisioned by N31 *do* cover life-cycle data management. (JPF 12/23/95)

Is the current capability of STEP that of identification and representation of data that pertains to different life-cycle phases, rather than tracking data across the life-cycle? (JPF 1-19-96)

Implemented: **Date resolved:**

Issue number:	8	**Raised by:**	Pascal Huau	**Date:**	23-Nov-95
Document N:	31	**Clause(s):**	3	**Status:**	closed

Issue title: Requirement for efficiency **Class'n:** minor technical

Description

During the preparation of the Initial Release of STEP, it has often been said that efficiency was not of interest for data modelers. But this is partially false: the concept of glob-ally_assigned_unit_context is an example where inefficiency of the first implementations has led to a change in the models.

The recent disagreement between WG4 and WG7 regarding the Express schemas in SDAI is another example proving that efficiency of the implementations is, in fact, always an un-derlying (in STEP) requirement.

Another point to be considered is the goals of the expected SC4 standards: are they ex-pected as enabling data transfer between existing CAx or PDM sofwares or are they de-signed to be used as the model of the future CAx software databases?

This question has really to be considered because the ways to solve each of these two possible requirements are quite different and because it may prevent some disappoint-ments when the standards are published.

For example, was it really worth to spend millions of dollars in the development of AP203 to obtain the current IS document, when you see that no software, either CAD or PDM soft-ware, is currently able to implement it completely?

So, I propose you add the question about the expectations as a kind of ambiguity or void in the expression of the requirements for the SC4 standards.

Proposed resolution:

The implicit requirement for efficiency should be added at the end of the final paragraph of clause 3. Also address wether the goal of APs are to enable data transfer between existing CAx or PDM software, or are they designed to be used as the model of future CAx software databases.

Actual resolution:

Text has been added (section 3.3) to address the issue of efficiency.

Commentary

Efficiency considerations may be used as a basis for choosing between equally "correct" solutions at the conceptual level. (MRW 11/27/95). There is also an architectral consideration here (see issue 23) regarding the dual conceptual/physical role of STEP data models. (JPF 12/23/95).

The second part of the issue (reactive vs. proactive standardisation) has not been addressed. In order to close this issue, the second part has been copied into a new issue (#51). (JPF 1-19-96)

Implemented: N42 **Date resolved:** 18/01/96

Issue number:	9	**Raised by:**	Pascal Huau	**Date:**	23-Nov-95
Document N:	31	**Clause(s):**	5.8	**Status:**	closed

Issue title: Standalone solutions **Class'n:** minor technical

Description

I disagree with the last finding because a stand_alone solution does not mean automati-cally poor flexibility and poor extensibility. On the opposite, the difficulties encountered to "merge" STEP and PLib data models, could be an evidence than integrated models as STEP IRs are presented, are not so flexible.

Proposed resolution:

Remove final bullet point of clause 5.8, or state in what sense stand-alone solutions do not enable flexibility or extensibility.

Actual resolution:

Text has been added to 5.8 that explains how standalone solutions can cause problems.

Commentary

The limitation on "integration" of STEP and PLIB is that of the willingness of the parties to work together, and of an overall SC4 architecture to govern the co-operation. Examples of infexibility of standalone solutions exist and can be brought into the document. (JPF 11/27/95)

The problem of willingness is not addressed by the resolution to this issue! (JPF 1-18-96)

Implemented: N42 **Date resolved:** 18/01/96

Issue number:	10	**Raised by:**	Pascal Huau	**Date:**	23-Nov-95
Document N:	31	**Clause(s):**	6.1	**Status:**	accepted

Issue title: Precision of wording **Class'n:** editorial

Description

In the expression "an integrated data model supporting all enterprise data use", which word "all" is connected to? To "use" (i.e. you consider all the usages an enterprise may make of a data)? To "data" (i.e. you consider all the data an enterprise may use)? Or, to "enterprise" (i.e. you consider that the integrated model may be applicable to the data of any enter-prise)?

This issue, also, leads to a question that should appear somewhere in the document: con-sidering that, in ISO, you define standards for a wide community, and that, when you talk about data integration, you consider the needs of a particular enterprise, can data integra-tion in any enterprise be achieved with using the concept of a standardized integrated data model? Is it technically feasible? Is it financially feasible? Is it even wished by the enter-prises funding SC4? (it is not beacuse you attend to ISO meetings that you will effectively use the resulting standards: other reasons for participating exist ...).

Proposed resolution:

Reword paragraph for clarity.

Actual resolution:

Reworded to include "... all enterprise data, and all uses of that data by the enterprise ..."

Commentary

The intent here is all the "all"s. (MRW 11/27/95). The paragraph will be reworded as suggested. (JPF 12/23/95).

Implemented: N42 **Date resolved:** 18/01/96

Issue number:	11	**Raised by:**	Pascal Huau	**Date:**	23-Nov-95
Document N:	31	**Clause(s):**	6.2.4	**Status:**	closed

Issue title: Representation **Class'n:** minor technical

Description

I would like the second paragraph be removed or, at the opposite completed. As it is now, it promotes the EPISTLE approach but without proving in what it is better. Therefore, the ar-gument has presently no value.

Proposed resolution:

Actual resolution:

Additional text including an example included in 6.2.4.

Commentary

Clarification of the text is required, with additional details and examples to substantiate the statement that the EPISTLE approach is more general. (JPF 12/27/95)

Implemented: N42 **Date resolved:** 18/01/96

Issue number:	12	**Raised by:**	Pascal Huau	**Date:**	23-Nov-95
Document N:	31	**Clause(s):**	6.3.1	**Status:**	closed

Issue title: STEP AAMs **Class'n:** minor technical

Description

I disagree with the last sentence (regarding STEP AAM) because AAMs are not only used to define the scope but also to discover the data created, modified or transferred during the application. AAM development is not restricted to the definition of the boundaries of the scope of an AP. If restrictions exist, they result more from bad modeling practices possibly coming from a lack of education of the AP developers than from a lack in the STEP meth-odology.

Proposed resolution:

Modify last sentence to reflect the above

Actual resolution:

Text added as proposed, with minor editorial change.

Commentary

Reword as proposed (JPF 11/27/95)

Implemented: N42 **Date resolved:** 18/01/96

Issue number:	13	**Raised by:**	Pascal Huau	**Date:**	23-Nov-95
Document N:	31	**Clause(s):**	7.1	**Status:**	closed

Issue title: Ambuiguity of Figure 2 **Class'n:** minor technical

Description

I disagree with the right part of the figure 2 because it is ambiguous. As it is, the diagram could be interpreted as an envisioned mixing of ARM and AIM definitions. If it is a correct interpretation, this cannot be "pulled out of the hat" without precise definitions on the way to do it. If it is not a correct interpretation, the ambiguity has to be resolved.

Proposed resolution:

Modify Figure 2 for clarity

Actual resolution:

Figure 2 (N31) replaced by Figures 2 and 3 (N42), with considerable additional accompanying text.

Commentary

Both the figure and the accompanying text should be modfied to make the intent clearer. (JPF 12/23/95)

Implemented: N42 **Date resolved:** 21/01/96

Issue number:	14	**Raised by:**	Pascal Huau	**Date:**	23-Nov-95
Document N:	31	**Clause(s):**	8	**Status:**	unpersuasive

Issue title: Identification of requirements **Class'n:** minor technical

Description

I disagree with the first recommendation because such a large enquiry made on a so vague topic, would not give results more valuable that the results of the WG10 ad-hoc subgroup discussions at NIST in June 95. It will only lead to lose 4 or 6 other months.

Proposed resolution:

Remove recommendation

Actual resolution:

Commentary

Many of the issues and problems encountered in SC4's work stem from a lack of effective, consensus statements of the requirements that SC4 seeks to fulfil. In extending and improving the SC4 architecture(s), WG10 *must* have a statement of requirements that can be used as one of the metrics against which success is judged. (JPF 12/23/95)

Implemented: **Date resolved:**

Issue number:	15	**Raised by:**	Pascal Huau	**Date:**	23-Nov-95
Document N:	31	**Clause(s):**	8	**Status:**	unpersuasive

Issue title: analysis of requirements **Class'n:** minor technical

Description

I disagree with the second recommendation because SC4 is an organization for developing standards and not for defining or analysing requirements.

Proposed resolution:

Remove recommendation

Actual resolution:

Commentary

Agreed that SC4 does not *define* requirements. However, the basis for STEP and the other SC4 standards is the *discovery* of requirements, and the development of standards through analysis of those requirements. (JPF 12/23/95).

Implemented: **Date resolved:**

Issue number:	16	**Raised by:**	Pascal Huau	**Date:**	23-Nov-95
Document N:	31	**Clause(s):**	8	**Status:**	closed

Issue title: Improvement of IRs **Class'n:** minor technical

Description

I would like to go further than the first point of the third recommendation. I would like the enrichment and the improvement of the IRs, based on the returns from first implementa-tions and on the requirements of APs under development, be a prioritary topic for SC4. It might mean than no other AP development be launched before this task has been com-pleted.

Proposed resolution:

Change third recommendation to reflect the above.

Actual resolution:

Appropriate text added to the third recommendation.

Commentary

This issue pertains to WG10's assigned task to analyse the PPC's recommendation for the creation of a new WG on "Integrated Resources". There is considerable interest (including in WG4) in being able to take a step back to review and improve the STEP IRs; however, the feasibility of this (in political and funding terms) has to be questioned. (JPF 12/27/95).

Implemented: **Date resolved:**

Issue number:	17	**Raised by:**	Mitch Gilbert	**Date:**	06-Dec-95
Document N:	31	**Clause(s):**	Whole document	**Status:**	open

Issue title: Industry requirements **Class'n:** major technical

Description

The current STEP data architecture is driven by specific industry need. The N31 document de-emphises the formal specification of industry need.

Proposed resolution:

Suggest using Part 13 as baseline document for WG10.

Actual resolution:

Text has been added (paragraph following figure 3 in N42) to address the issue of the emphasis on formal specification of industry need.

Commentary

There was no intent in N31 to remove the emphasis of STEP on formal specification of industry requirements. Rather, the intent is that this specification should become *more* formal, and that it should be more consistent across multiple APs. Given the result of the formal vote on N31, it is now considered alongside Part 13 and other documents as *one* of the inputs to WG10's work. (JPF 12/23/95)

Implemented: **Date resolved:**

Issue number:	18	**Raised by:**	Yuhwei Yang	**Date:**	30-Nov-95
Document N:	31	**Clause(s):**	Whole document	**Status:**	open

Issue title: STEP fundamental principles **Class'n:** major technical

Description

TOne fundamental principle STEP adopted since conception is that the standard must be a user requirements driven standard. The objective is to avoid the problems we experience with the traditional MIS approach to solving problems; force fit all requirements into a ready made solution or encourage mis-use or tailoring of the solution to make it work. The reason why STEP currently has IR, ARM, and AIM is (1) a carefully designed solution to accommodate requirements (ARM), provide build-in data integration (interpretation of IR), and contextual standards (AIM); (2) the result of an evolution and realization of failures and incorporating technical issues resolutions.

Proposed resolution:

Actual resolution:

Commentary

See response to issue 17.

Implemented: **Date resolved:**

Issue number:	19	**Raised by:**	Mark Palmer	**Date:**	30-Nov-95
Document N:	31	**Clause(s):**	Whole document	**Status:**	open

Issue title: Start point for WG10 **Class'n:** major technical

Description

N31 introduces concepts and perspectives for which consensus has not been established. Some of theses concepts duplicate or contradict the architecture and principles of STEP.

Proposed resolution:

Actual resolution:

Commentary

Clarification of this issue is required -- which concepts of N31 duplicate or contradict the architecture and principles of STEP? (JPF 12/23/95)

Implemented: **Date resolved:**

Issue number:	20	**Raised by:**	Mark Palmer	**Date:**	30-Nov-95
Document N:	31	**Clause(s):**	Whole document	**Status:**	open

Issue title: Testing of architecture **Class'n:** major technical

Description

Documents, such as N31, provide some interesting recommendations to STEP. How can we be certain that such recommendations will be beneficial to STEP.

Proposed resolution:

WG10 should document industry requirements for data integration and data sharing, and demonstrate how well the existing STEP architecture meets these requirements. With these results WG10 can then effectively assess such documnets as N31.

Actual resolution:

Commentary

Implemented: **Date resolved:**

Issue number:	21	**Raised by:**	Jon Owen	**Date:**	02-Dec-95
Document N:	31	**Clause(s):**	Whole document	**Status:**	open

Issue title: Issues against the current architecture **Class'n:** minor technical

Description

The document assumes that their are problems with the STEP data architecture, and that they are well known and defined. Issues against the current architecture need to be more formally defined in clear and agreed terminology.

Proposed resolution:

Identify and document clearly the issues against the current architecture, and undertake a feasibility study based on the N31 architecture. The results of the feasibility study can then be analysised against the current architecture.

Actual resolution:

Commentary

Continued work on N31 needs to be co-ordinated with that on Part 13 and the proposed "companion document" to Part 13 that captures the limitations of and issues against the current STEP architecture and methodology. (JPF 12/23/95)

Section 4 is a high level statement of the issues - should there be more detail here, or a reference to the Part 13 issues log? (JPF 1/11/96)

Implemented: **Date resolved:**

Issue number:	22	**Raised by:**	Martin Hardwick	**Date:**	20-Nov-95
Document N:	31	**Clause(s):**	Whole document	**Status:**	open

Issue title: Addition of a Core Model **Class'n:** major technical

Description

Addition of a Core Model to STEP will just make STEP even more complicated. Do we need such a concept and is it sufficient and necessary for data sharing? NOTE: this issue was also raised by Felix Metzger.

Proposed resolution:

Prove by demonstration that N31 would improve the STEP data architecture would remove this issue.

Actual resolution:

Commentary

I agree that making STEP (or the SC4 standards in general) more complicated is undesirable. However, simplicity in itself is not a virtue. To quote Einstein "Things should be as simple as possible, but no simpler". The architecture identified aims to satisfy this criterion when the additional requirement of data integration is added to the existing data exchange requirement. (MRW 11/27/95)

Implemented: **Date resolved:**

Issue number:	23	**Raised by:**	Felix Metzger	**Date:**	28-Nov-95
Document N:	31	**Clause(s):**	Whole document	**Status:**	accepted

Issue title: ANSI/SPARC **Class'n:** minor technical

Description

Document implies that STEP follows the ANSI-SPARC three layer architecture, which is a myth.

Proposed resolution:

Document should be clearer, with respect to STEPs use of the ANSI-SPARC three layer archi-tecture.

Actual resolution:

Commentary

This is a long-standing issue, and has been discussed several times in the past (e.g., Atlanta meeting 1994). Rather than modifying N31 at this stage, I am preparing a "white paper" on ANSI SPARC - STEP comparisons for discussion at the Dallas meeting. (JPF 12/09/95)

Implemented: **Date resolved:**

Issue number:	24	**Raised by:**	Martin Hardwick	**Date:**	20-Nov-95
Document N:	31	**Clause(s):**	Whole document	**Status:**	open

Issue title: Demonstration of the use of core models **Class'n:** major technical

Description

I understand that the "Core Model"concept has been proposed as a way to implement data sharing using STEP. A demonstration that proved that this concept was necessary and SUFFICIENT for STEP to support data sharing would make me change my vote immediately.

Proposed resolution:

Actual resolution:

Commentary

The proposal is not the addition of a Core Model concept, but of an architecture that understands a number of developments including Core Models and the Maritime Building Block approach, as well as the good work that already exists in STEP.

Is it necessary? Well, I suppose I have to turn the question around here and ask what you mean by "necessary". If you mean "Is there no other way of solving the problem" then I would be very surprised to find this to be the case. Typically there is more than one way to solve a problem. Thus this objection could be argued to hold against any proposal. I will only claim that this is A way of solving the data sharing requirement. However, we do want A way. If there are others brought forward, then we can compare them on some basis such as effectiveness and efficiency in standards development and implementation.

Is it sufficient? Currently almost certainly not. At the very least, this is an data architecture, not a data model, and we will need data modelling and implementation methods to match. N31 is work in progress which you are invited to contribute to.

Can it be demonstrated to work? I think this is perhaps what was meant. The answer here is "yes". We have done quite a lot of work, including implementations that supports this. (MRW 11/27/95)

Implemented: **Date resolved:**

Issue number:	25	**Raised by:**	Yuhwei Yang	**Date:**	30-Nov-95
Document N:	31	**Clause(s):**	whole document	**Status:**	open

Issue title: Exploitation of STEP vs.changing the architecture **Class'n:** major technical

Description

As a business person who deals with the "real world" daily. I have started seeing some germinating interest in the American industry as a result of (1) published the initial release; and (2) hard sells many of us have engaged ourseleves in. I fear that before any users in the industry have a chance to look at, test out, or take advantage of the standard for their usage, we, the developers of STEP will kill it ourselves. 10 years of hard work will go down the drain. If the goal for WG10 is to improve what we have and change for the better, we need to be careful and thoughtful how we approach it.

STEP is a complicated solution trying to solve a complex problem. Ideally, everyone would have preferred a simpler answer. I don't believe we have found one yet.

Proposed resolution:

Actual resolution:

Commentary

Refer to WG10 - wider scope than that of N31 (JPF 1-8-96)

Implemented: **Date resolved:**

Issue number:	26	**Raised by:**	Yuhwei Yang	**Date:**	30-Nov-95
Document N:	31	**Clause(s):**	whole document	**Status:**	open

Issue title: N31 not suited as a basis for SC4 architecture. **Class'n:** major technical

Description

After carefully reviewing the document, I think it is a good reference document but I don't feel it is suited for being a basis of the WG10 architectual work. I do think the paper did a good job in identifing the key aspects of the architecture.

Proposed resolution:

For WG10 to make progress, I would like to suggest a practical approach:

(1) We first request the submission of proposals of new methods and architecture. N31 can certainly be treated as one of those; my no vote certainly does not apply to accepting it as a potential proposal. At the same time, I think we should give other proposals the same opportunity. All proposals must describe the new methods and architecture in enough details that we can use and practice.

(2) We then adopt every proposal and test them out to discover what works.

Because I believe that agreement can be easily obtained if there is hard and real proof. I don't think we can ever make any progress if we continue to discuss individual's theory. We need to roll up our sleeves and start working and testing the theories instead.

Actual resolution:

Commentary

Refer to WG10 - wider scope than that of N31 (JPF 1-8-96)

Implemented: **Date resolved:**

Issue number:	27	**Raised by:**	Felix Metzger	**Date:**	28-Nov-95
Document N:	31	**Clause(s):**	general	**Status:**	open

Issue title: AIM modelling style **Class'n:** major technical

Description

We doubt the usefulness of the modelling style for the AIM models of APs in general.

The main problem is missing human readability, because this means that in reality no quality control takes place concerning the rules of the model.

Proposed resolution:

We propose to change the attitude of the interpretation process to avoid long and complicated rules, and to use a modelling method which is based on strong typing instead.

Actual resolution:

Commentary

This is also an issue in the Swiss comments on the CD of AP224. I think that this issue relates more to Part 13 than to N31 -- if Felix agrees I propose to transfer this to the Part 13 issues log. (JPF 1-11-96)

Implemented: **Date resolved:**

Issue number:	28	**Raised by:**	Felix Metzger	**Date:**	28-Nov-95
Document N:	31	**Clause(s):**	general	**Status:**	open

Issue title: AIM Model Documentation Style **Class'n:** major technical

Description

We doubt the usefulness of the usage of the Mapping Table to document the semantics (some people even believe it also documents formal rules) of the AIM entities. The mapping table is not really human readable, and it is far from being computer sensible (not even an EBNF description of the syntax exists).

In particular the mapping table is insufficient, because it maps the ARM to the AIM. For any file formate, the implementation of the post-processor is the difficult and expensive part. Therefore, if a mapping is needed, it shall be described in terms of mapping the AIM to the ARM.

In addition, if a mapping is needed, the mapping shall be described in terms of instances. This means for example, we have the problem when in a mapping rule the same name of an entity occurs more than once, where it is unclear whether the same instance is meant or another instance of the same entity.

Proposed resolution:

We propose to disband the idea that the final standard AP document contains more than one data model at all, but to:

- require the first model drafted for any AP to be drafted in EXPRESS, and to
- use this model always as the basis for change during the process until the final AP data model is finished,
- where the final model is a good compromise between the way the discipline and application experts express their needs, the way the data modelling people are doing conceptual modelling, and the way the implementation people require a model to be.

Actual resolution:

Commentary

This is also an issue in the Swiss comments on the CD of AP224. I think that this issue relates more to Part 13 than to N31 -- if Felix agrees I propose to transfer this to the Part 13 issues log. (JPF 1-11-96)

Implemented: **Date resolved:**

Issue number:	29	**Raised by:**	Felix Metzger	**Date:**	28-Nov-95
Document N:	31	**Clause(s):**	general	**Status:**	open

Issue title: Modularity - Size of Documentation **Class'n:** major technical

Description

The current approach when standardizing an AP has a problem: The documentation is too big and too repetitive. The maintenance of the standard documents is nearly impossible.

Proposed resolution:

We should work out within SC4 another way to do the standardization of APs, where the whole AP standard is broken down into modules

- which do not repeat text copied from other documents, because this creates a huge maintenance problem,
- which are small and extendible (later),
- which are implementable on their own without requiring all other modules to be implemented as well

The latter feature allows bringing the most needed module to the market first gaining revenues for the implementation of the next module.

Actual resolution:

Commentary

This is also an issue in the Swiss comments on the CD of AP224. I think that this issue relates more to Part 13 than to N31 -- if Felix agrees I propose to transfer this to the Part 13 issues log. (JPF 1-11-96)

Implemented: **Date resolved:**

Issue number:	30	**Raised by:**	WG10, Grenoble	**Date:**	26-Oct-95
Document N:	31	**Clause(s):**	6.2	**Status:**	open

Issue title: Integrated data models **Class'n:** major technical

Description

Is there a real industry need for “integrated industry data models”?

Proposed resolution:

Actual resolution:

Example as below added to 6.2.

Commentary

Yes – several already exist (e.g., POSC EPICENTRE), and others are being developed. (MRW 10/26/95)

Implemented: **Date resolved:**

ISO TC184/SC4/WG10 N43 -- issues log for WG10 N31 and N42

Issue number:	31	**Raised by:**	WG10, Grenoble	**Date:**	26-Oct-95
Document N:	31	**Clause(s):**	6.1	**Status:**	closed

Issue title: Intergated data models **Class'n:** minor technical

Description

Is there only one integrated industry data model per industry?

Proposed resolution:

Actual resolution:

There may be many (Figure 1 in N31 is to be amended accordingly).

Commentary

Implemented: N42 **Date resolved:** 18/01/96

Issue number:	32	**Raised by:**	WG10, Grenoble	**Date:**	26-Oct-95
Document N:	31	**Clause(s):**	6.2	**Status:**	open

Issue title: Use of integrated data models **Class'n:** minor technical

Description

How is an integrated industry data model used?

Proposed resolution:

Add text describing the potential use of integrated industry data models.

Actual resolution:

Text added to 6.2 as below.

Commentary

Response: may be used as the basis for im-plementing “data warehouse” capabilities (e.g., in the ESPRIT PIPPIN project). MRW 10/26/95

Implemented: **Date resolved:**

Issue number:	33	**Raised by:**	WG10, Grenoble	**Date:**	26-Oct-95
Document N:	31	**Clause(s):**	6.2, 6.3.2	**Status:**	open

Issue title: Impact on integration and interpretation **Class'n:** minor technical

Description

Does the migration of more application-specific constructs into the integrated data model impact on the integration process and the standardisation of integrated resources?

Proposed resolution:

Actual resolution:

Commentary

Response: possibly not, although the ability to reference existing industry classification schemes (as standards on paper) within the proposed architecture may be relevant. MRW 10/26/95.

Implemented: **Date resolved:**

Issue number:	34	**Raised by:**	WG10, Grenoble	**Date:**	26-Oct-95
Document N:	31	**Clause(s):**	6.2.2, 6.2.3	**Status:**	open

Issue title: Impact on STEP IRs **Class'n:** minor technical

Description

Does the proposal include replacement of the STEP GPDM (Part 41, etc.)?

Proposed resolution:

Actual resolution:

Commentary

Response: no – the goals of the approach can be achieved by incremental improvement to the current STEP IRs (e.g., by identifying those aspects of the IRs that incorporate communication constraints). MRW 10/26/95

Implemented: **Date resolved:**

Issue number:	35	**Raised by:**	Julian Fowler	**Date:**	26-Oct-95
Document N:	31	**Clause(s):**	7.1	**Status:**	closed

Issue title: Figure 2 to be updated. **Class'n:** editorial

Description

The version of N31 Figure 2 presented at the Grenoble meeting (viewfoil) includes discipline classification schemes within the "Resources" box.

Proposed resolution:

This is to be updated in the next version of the document.

Actual resolution:

Figure 2 updated as proposed.

Commentary

Implemented: N42 **Date resolved:** 18/01/96

Issue number:	36	**Raised by:**	WG10, Grenoble	**Date:**	26-Oct-95
Document N:	31	**Clause(s):**	7.1	**Status:**	open

Issue title: Complexity of AIMs **Class'n:** minor technical

Description

Does the proposal address perceived problems with large numbers of complex WHERE rules within AIMs?

Proposed resolution:

Actual resolution:

Commentary

Response: the constraints may be capable of satisfaction using other mecha-nisms that give results that are both more easily understood and reviewed by domain experts, and more implementable. MRW 10/26/95
See also issue #27 and possible transfer to Part 13 issues log. JPF 1/11/96.

Implemented: **Date resolved:**

Issue number:	37	**Raised by:**	WG10, Grenoble	**Date:**	26-Oct-95
Document N:	31	**Clause(s):**	7.1	**Status:**	open

Issue title: Conceptual vs. physical schema **Class'n:** minor technical

Description

Is there a difference between the ARM/AIM as depicted in N31 Figure 2 and the "Standard Implementation Schema"? · Is the ARM/AIM a conceptual model only, or both conceptual and physical?

Proposed resolution:

Amend figure 2 to remove standard implementation schemas.

Actual resolution:

Commentary

Response: none is intended – there would be just one (E-R) data model in the AP – it is intended to be a conceptual model only. MRW 10/26/95.

Implemented: **Date resolved:**

Issue number:	38	**Raised by:**	WG10, Grenoble	**Date:**	26-Oct-95
Document N:	31	**Clause(s):**	7.1	**Status:**	open

Issue title: Mapping between AP and "resources" **Class'n:** minor technical

Description

Is there a "mapping" between the AP and the "resources"?

Proposed resolution:

Actual resolution:

Commentary

Response: yes, but only in the sense of selection of a subset. MRW 10/26/95

Implemented: **Date resolved:**

Issue number:	39	**Raised by:**	WG10, Grenoble	**Date:**	26-Oct-95
Document N:	31	**Clause(s):**	7.1	**Status:**	open

Issue title: Compatibility with existing approaches **Class'n:** major technical

Description

N31 does not cover upward compatibility with current AP development methods.

Proposed resolution:

Actual resolution:

Commentary

Implemented: **Date resolved:**

Issue number:	40	**Raised by:**	A.Otaka, Toyota Soft Engineering,Co.	**Date:**	16-Jan-96
Document N:	31	**Clause(s):**	general	**Status:**	open

Issue title: Proposed methodology lacks practicality. **Class'n:** minor technical

Description

It is recognized to be a valid requirement to use STEP for data sharing as well as for data exchange. However, it is not clear to be able to solve problems of current STEP methodology about integration by establishing N31 as a base document because methodology shown in section 7 lacks practicality.

Proposed resolution:

Actual resolution:

Commentary

I classified this issue as "minor" because I believe that it relates to the content of the document, rather than the underlying understanding. At some point there will be a need to document and present the details of the underlying methods and practices. How much of "High Quality Data Models" actually belongs in this document? JPF 1-18-96

Implemented: **Date resolved:**

Issue number:	41	**Raised by:**	T.Kishinami, Hokkaido University	**Date:**	16-Jan-96
Document N:	31	**Clause(s):**	general	**Status:**	open

Issue title: Relationship to Part 13 **Class'n:** minor technical

Description

I do not understand the relationship between ISO 10303-13 or STEP development method and this document.

Proposed resolution:

Actual resolution:

Commentary

Text needs to be added to address this issue (expanded section 7?).

Implemented: **Date resolved:**

Issue number:	42	**Raised by:**	T.Kishinami, Hokkaido University	**Date:**	16-Jan-96
Document N:	31	**Clause(s):**	general	**Status:**	open

Issue title: Mappings between models **Class'n:** major technical

Description

I think the essential problem of STEP which we have been struggling to solve and unfortunately have not yet succeeded fully is to establish mapping between two models that are constructed differently. I think what we have to do now is to develop the method for mapping between similar but different models, which are stated correctly in N31. However, N31 does not describe clearly how the architecture and methodology proposed in N31 contributes to solve this problem.

Proposed resolution:

Actual resolution:

Commentary

See comments on issue #40 -- High Quality Data Models should address this. JPF 1-18-96.

Implemented: **Date resolved:**

Issue number:	43	**Raised by:**	A.Otaka, Toyota Soft Engineering,Co	**Date:**	16-Jan-96
Document N:	31	**Clause(s):**	6.3.3	**Status:**	open

Issue title: Union of subject area models **Class'n:** minor technical

Description

It is mentioned that integrated industry data model can be generated by making union of subject area. I do not consider it to be a systematic and consistent data model.

Proposed resolution:

Actual resolution:

Commentary

Implemented: **Date resolved:**

Issue number:	44	**Raised by:**	T.Kishinami, Hokkaido University	**Date:**	16-Jan-96
Document N:	31	**Clause(s):**	8	**Status:**	open

Issue title: Union of AIMs **Class'n:** minor technical

Description

What is the meaning of 'union' that is one of the final conclusion of this document?

Proposed resolution:

Actual resolution:

Commentary

Implemented: **Date resolved:**

Issue number:	45	**Raised by:**	A.Otaka, Toyota Soft Engineering,Co	**Date:**	16-Jan-96
Document N:	31	**Clause(s):**	7.1	**Status:**	open

Issue title: Integrated resources **Class'n:** minor technical

Description

Positioning of integrated resources is ambiguous

Proposed resolution:

Actual resolution:

Commentary

Implemented: **Date resolved:**

Issue number:	46	**Raised by:**	T.Kishinami, Hokkaido University	**Date:**	16-Jan-96
Document N:	31	**Clause(s):**	5.7, 8	**Status:**	open

Issue title: Core model **Class'n:** minor technical

Description

Concept of core model should be clearly defined

Proposed resolution:

Actual resolution:

Commentary

Implemented: **Date resolved:**

Issue number:	47	**Raised by:**	T.Kishinami, Hokkaido University	**Date:**	16-Jan-96
Document N:	31	**Clause(s):**	6.1	**Status:**	open

Issue title: Figure 1, terminology **Class'n:** editorial

Description

Figure 1 is not understandable. What graphical notation is used for the figure? What is meant by arrows or envelops? Terms such as ontological, integrated data model and standard data should be clearly defined.

Proposed resolution:

Actual resolution:

Commentary

Implemented: **Date resolved:**

Issue number:	48	**Raised by:**	T.Kishinami, Hokkaido University	**Date:**	16-Jan-96
Document N:	31	**Clause(s):**	7.1	**Status:**	open

Issue title: Positioning of parametrics. **Class'n:** minor technical

Description

Where and how is the function of parametrics positioned in this architecture? It is required to be stated explicitly and clearly

Proposed resolution:

Actual resolution:

Commentary

Parametrics needs to be put in at least three places (which helps to explain why SC4 cannot decide how to manage it!). First area is in Generic Framework -- the idea of parameterised definitions (typicals). The second is in templates -- parametric representations. Parametrics may also be covered by the activity-event-association relationships. JPF 1-18-96.

Implemented: **Date resolved:**

Issue number:	49	**Raised by:**	T.Ishikawa, Technical Institute of Kisarazu	**Date:**	16-Jan-96
Document N:	31	**Clause(s):**	7.1	**Status:**	open

Issue title: Relationship to PLIB **Class'n:** minor technical

Description

If the document proposes the integration of data model among SC4, it needs to describe the relationship between integrated data model and P-LIB. For members of SC4/WG2, it may be convenient to show a mapping between integrated data model and general model of P-LIB.

Proposed resolution:

Actual resolution:

Commentary

Implemented: **Date resolved:**

Issue number:	50	**Raised by:**	Julian Fowler	**Date:**	19-Jan-96
Document N:	42	**Clause(s):**	4	**Status:**	open

Issue title: Focus on STEP issues **Class'n:** minor technical

Description

Section 4 is still focused on STEP issues. There is a need to cover this topic from an industrial requirements and SC4 viewpoint, i.e., that industry has needs and expectations for compatible standards for exchange, sharing and integration of industrial data, and that SC4 therefore has the responsibility to deliver one or more standards that fulfil these needs without need for further "integration" of different standards or parts of standards.

Proposed resolution:

To be provided.

Actual resolution:

Commentary

Implemented: **Date resolved:**

Issue number:	51	**Raised by:**	Pascal Huau	**Date:**	23-Nov-95
Document N:	31	**Clause(s):**	3	**Status:**	open

Issue title: Reactive or proactive standards. **Class'n:** major technical

Description

Another point to be considered is the goals of the expected SC4 standards: are they ex-pected as enabling data transfer between existing CAx or PDM sofwares or are they de-signed to be used as the model of the future CAx software databases?

This question has really to be considered because the ways to solve each of these two possible requirements are quite different and because it may prevent some disappoint-ments when the standards are published.

For example, was it really worth to spend millions of dollars in the development of AP203 to obtain the current IS document, when you see that no software, either CAD or PDM soft-ware, is currently able to implement it completely?

Proposed resolution:

Address whether the goal of APs are to enable data transfer between existing CAx or PDM software, or are they designed to be used as the model of future CAx software databases.

Actual resolution:

Commentary

This is the second half of issue #8 (JPF 1/18/96)

Implemented: **Date resolved:**